

DRE7011 - Mini PhD course in Oil Markets and the Macro Economy, May 26-28, Oslo, Norway

By Hilde C. Bjørnland (BI) and Ragnar Torvik (NTNU)

Guest lecturer (28 May): Drago Bergholt (Norges Bank)

Time: 26-28 May 2015. 09:00-14:00, Room A2-035 BI Norwegian Business School

The course will cover advanced research in oil market models and discuss links between oil prices, the macro economy and monetary policy in oil importing and resource rich economies. Models of resource curse and the Dutch disease (or the lack of) will be covered from both a theoretical and an empirical perspective.

Day 1: Tuesday 26 May 09:00-14:00 (Hilde C. Bjørnland)

We cover theories and empirical evidence of linkages between oil prices, the macroeconomy and monetary policy, including

- A Structural Model of the Global Market for Crude Oil
- What drives oil prices, demand or supply?
- Are Macroeconomic Responses Asymmetric in Oil Price Increases and Decreases?
- Monetary Policy Responses to Oil Price Fluctuations

Day 2: Wednesday 27 May 09:00-14:00 (Ragnar Torvik)

The resource curse literature claims that resource abundance may reduce economic growth, and also make the economy «oil dependent». Several theoretical foundations have been developed to explain why this may (or may not) be the case. The main focus in the lectures is put on the Dutch Disease part of the literature, although we will also discuss theories of rent-seeking and theories of how resource abundance shapes political incentives. Towards the end of the lectures we will discuss remaining research challenges in these fields.

Day 3: Thursday 28 May 09:00-14:00 (Hilde C. Bjørnland and Drago Bergholt)

In the final part we analyse if resource rich countries enjoy positive spillovers from the petroleum sector, or, if there is evidence of oil dependence and eventually Dutch disease. Optimal policy will be discussed in details. Topics to be covered:

- Empirical evidence (or lack of evidence) of Dutch disease
- Spillovers of oil and gas in resource rich economies
- Monetary Policy in resource rich economies

NOTE: During the course there will be hand-outs and additional articles relevant for the course and the examination

Day 1: Oil price shocks and the macroeconomy (Hilde C. Bjørnland)

- Baumeister, C. and G. Peersman (2013). The role of time-varying price elasticities in accounting for volatility changes in the crude oil market. *Journal of Applied Econometrics* 28(7), 1087-1109.
- Bernanke, B. S., M. Gertler, M. Watson, C. A. Sims, and B. M. Friedman (1997). Systematic monetary policy and the effects of oil price shocks. *Brookings Papers on Economic Activity* 1997(1), pp. 91-157.
- Bjørnland, Hilde C. (2000). The Dynamic Effects of Aggregate Demand, Supply and Oil Price Shocks - A comparative study. *The Manchester School of Economic Studies*, 68, 578-607.
- Bjørnland, Hilde C. (2009). "Oil price shocks and stock market booms in an oil exporting country". *Scottish Journal of Political Economy*, 56(2), 232-254.
- Bjørnland, H.A. , Aastveit, K.A. and L.A. Thorsrud. 2015. What drives oil prices? Emerging versus Developed Economies. *Journal of Applied Econometrics*. (forthcoming)
- Peersman, G. and I. Van Robays (2012). Cross-country differences in the effects of oil shocks. *Energy Economics* 34 (5), 1532-1547.
- Hamilton, J.D. 1983. "Oil and the Macroeconomy Since World War II". *Journal of Political Economy*. 91, 228-248.
- Hamilton, J.D. 2009. "Causes and Consequences of the Oil Shock of 2007-08". *Brookings Papers on Economic Activity*, 1, Spring. 215-261
- Hamilton, J. D. (2003). What is an oil shock? *Journal of Econometrics* 113(2), 363-398.
- Hamilton, J.D. 2011. "Nonlinearities and the Macroeconomic Effects of Oil Prices". *Macroeconomic Dynamics*, 15. 364-378
- Hamilton, J.D., and A.M. Herrera. 2004. "Oil Shocks and Aggregate Economic Behavior: The Role of Monetary Policy". *Journal of Money, Credit and Banking*, 36. 265-286
- Kilian, L. 2009. "Not all Oil Price Shocks Are Alike: Disentangling Demand and Supply Shocks in the Crude Oil Market". *American Economic Review*, 99. 1053-1069
- Kilian, L. and D. Murphy (forthcoming). The role of inventories and speculative trading in the global market for crude oil. *Journal of Applied Econometrics*.
- Kilian, L. and R. J. Vigfusson (2011). Nonlinearities in the oil price output relationship. *Macroeconomic Dynamics* 15(S3), 337-363.
- Mork, K. A. (1989, June). Oil and Macroeconomy When Prices Go Up and Down: An Extension of Hamilton's Results. *Journal of Political Economy* 97(3), 740-44.
- Nakov, A. and A. Pescatori (2010, 03). Oil and the Great Moderation. *Economic Journal* 120(543), 131-156.

Day 2: Dutch disease and windfall gains - theory (Ragnar Torvik)

- Corden, W. M. and J. P. Neary (1982). Booming sector and de-industrialisation in a small open economy. *The Economic Journal* 92 (368), 825-848.
- Krugman, P. (1987). The narrow moving band, the Dutch disease, and the competitive consequences of Mrs. Thatcher: Notes on trade in the presence of dynamic scale economies. *Journal of development Economics* 27 (1), 41-55.
- Torvik R.. (2001). Learning by doing and the Dutch disease. *European Economic Review*. 45. 285-306
- van Wijnbergen, S. (1984). The "Dutch Disease": a disease after all? *The Economic Journal* 94 (373), 41-55.

The lecture notes will cover details on additional papers and explain how to solve models describing dynamics for a resource rich economy

Day 3 Windfall gains –empirical evidence and monetary policy (Hilde C Bjørnland and Drago Bergholt)

1. Macroeconomic effects of a windfall discovery for commodity exporters – Empirical evidence

- Allcott, H. and D. Keniston (2014, September). Dutch disease or agglomeration? The local economic effects of natural resource booms in modern america. Working Paper 20508, National Bureau of Economic Research.
- Bjørnland, H. C. (1998). The economic effects of North Sea oil on the manufacturing sector. *Scottish Journal of Political Economy* 45 (5), 553-85.
- Bjørnland, H.C. and Torsrud, L.A.. 2014. Boom or gloom? Examining the Dutch disease in two-speed economies. Forthcoming in *Economic Journal*
- Smith, B. (2014). Dutch Disease and the Oil and Boom and Bust. OxCarre Working Papers 133, Oxford Centre for the Analysis of Resource Rich Economies, University of Oxford.

2. Macroeconomic effects of a windfall for commodity exporters – A brief review of theoretical predictions

3. The oil-macro interaction – What can we learn from general equilibrium models?

- a. Background/preliminaries
 - i. Adolfson, M., S. Laseen, J. Linde and M. Villani (2007). Bayesian estimation of an open economy DSGE model with incomplete pass-through. *Journal of International Economics* 72, 481-511.
 - ii. Justiniano, A. and B. Preston (2010). Can structural small open-economy models account for the influence of foreign disturbances? *Journal of International Economics* 81, 61-74.
- b. Endogenous oil price fluctuations in DSGE models
 - i. Bodenstein, M., C. J. Erceg and L. Guerrieri (2011). Oil shocks and external adjustment. *Journal of International Economics* 83, 168-184.
 - ii. Bodenstein, M., L. Guerrieri and L. Kilian (2012). Monetary policy responses to oil price fluctuations. *IMF Economic Review* 60, 470-504.
 - iii. Nakov, A. and A. Pescatori (2010a). Monetary policy trade-offs with a dominant oil producer (2010). *Journal of Money, Credit and Banking* 42, 1-32.
 - iv. Nakov, A. and A. Pescatori (2010b). Oil and the great moderation (2010). *The Economic Journal* 120, 131-156.
 - v. Peersman, G. and A. Stevens (2013). Analyzing oil demand and supply shocks in an estimated DSGE model. Ghent University, Manuscript.
 - vi. Unalmis, D., I. Unalmis and D. F. Unsal (2012). On oil price shocks: The role of storage. *IMF Economic Review* 60, 505-532.

4. Monetary policy in commodity exporting economies

- a. Background/preliminaries
 - i. Gali, J. and T. Monacelli (2005). Monetary policy and exchange rate volatility in a small open economy. *Review of Economic Studies* 72, 707-734.
 - ii. Schmitt-Grohe, S. and M. Uribe (2004). Optimal simple and implementable monetary and fiscal rules. NBER WP 10253.

b. Optimal policy among commodity exporters

- i. Benkhodja, M. T. (2014). Monetary policy and the Dutch Disease effect in an oil exporting economy. *International Economics* 138, 78-102.
- ii. Bergholt, D. (2014). Monetary policy in oil exporting economies. CAMP WP 5/2014.
- iii. Catao, L. and R. Chang (2012). Monetary rules for commodity traders. NBER WP 18536.
- iv. Ferrero, A. and M. Seneca (2015). Notes on the underground: Monetary policy in resource-rich economies. Norges Bank WP 2/2015.
- v. Hevia, C. and J. P. Nicolini (2012). Optimal devaluations. *IMF Economic Review* 61, 22-51.
- vi. Pieschacon, A. (2012). The value of fiscal discipline for oil-exporting countries. *Journal of Monetary Economics* 59, 250-268.
- vii. Stevens, A. (2015). Optimal monetary policy response to endogenous oil price fluctuations. National Bank of Belgium WP 277.

5. Matlab session: Code for simulation/estimation of a simple DSGE model for commodity exporters.